provisional election of group I without traverse. Applicant reserves the right to traverse

restriction requirements between the other asserted claim groups (groups II to V).

III. Rejections Under 35 U.S.C. § 102

Claims 1-3 and 7-9 were rejected under 35 USC 102(b) and 102(e) as being anticipated

by US Patent No. 5,370,713 ('713 patent). Applicant respectfully traverses this rejection.

A. Background

The '713 patent, entitled "Automatic Plant Dividing System," pertains to an apparatus for

dividing plant materials; the abstract is as follows:

> An apparatus (1) for dividing plant materials (4) comprising, a first conveyor (2)
> to transport a tray (3) or the like so as to selectively position generally upstanding
> plant material disposed in the tray, harvesting means (7) to grip and sever the
> plant material (4) adjacent its base when selectively positioned by the first
> conveyor (2) and to transport the plant material to a dividing station (D), image
> signal generating and processing means (6) to scan the cutting and cutter means
> (10) responsive to a division signal from said image signal generating and
> processing means (6) to divide the plant cutting (5) according to predetermined
> rules related to the structure of plant material, and planting device (13) to
> transport and position the divided plant material (17) in a growing medium (20).

"To anticipate a claim, a reference must disclose every element of the challenged claim

and enable one skilled in the art to make the anticipating subject matter." *PPG Industries Inc. v.

Guardian Industries Corp.*, 37 U.S.P.Q.2d 1618, 1624 (Fed. Cir. 1996). Any feature not directly

taught must be inherent or otherwise implicit in the anticipatory reference. *Standard Havens

Prods., Inc. v. Gencor Indus., Inc.*, 21 U.S.P.Q.2d 1321, 1328 (Fed. Cir. 1991). Under the

inherency doctrine, if the prior art necessarily functions in accordance with, or includes, the

claimed limitations, it anticipates. *In re King*, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986).

B. Steps (a) and (b) of claim 1 and '713 patent teachings

The Examiner points to the abstract of '713 patent avers that these teachings anticipate

claims 1-3 and 7-9. More specifically, the Examiner avers on page 6 of the Office Action that

[t]he 5370713 patent begins the selection process with a conveyor belt and the present case uses

techniques of analysis. ... ... Thus parts a and b of claim one are addressed in this portion of patent 5370713." Applicant respectfully disagrees and submits that the Examiner's interpretation of the portion related to the conveyor belt in '713 patent is contrary to the explicit teachings therein. The '713 patent states in the abstract that "a ... conveyor ... to transport a tray ... to selectively position generally upstanding plant material disposed in the tray". The '713 patent does not teach (either in the abstract or elsewhere) that the conveyor belt is used to analyze the sample to determine at least one structural or functional index associated with the raw product as required by step (b) of claim 1. Therefore, in contrary to the Examiner's assertion, part b of claim one is not addressed in the '713 patent.

C. Steps (d) and (e) of claim 1 and '713 patent teachings

Next, the Examiner avers on page 6-7 of the Office Action that "index and ranges set forth in the instant case to achieve uniformity in the plant product is mirrored in and achieved by the patent by the use of 'predetermined rules related to the structure of the plant material'. ... ... Thus the patent 5370713 mirrors parts d and e of the instant claim 1". Applicant respectfully disagrees with the assertion that the patent 5370713 mirrors parts d and e of the instant claim 1.

As to steps (d) and (e) of claim 1, Applicant respectfully submits that the prophetic statement, "predetermined rules related to the structure of the plant material", in the '713 patent does not teach or disclose features set forth in these steps. Whatever these "predetermined rules" might be, (which the '713 patent does not explain it anywhere within its four corners) there is no teaching of "processing into the uniform quality end product by comparing the at least one structural or functional index to product processing feature range sets in the records". Whatever predetermined rules it teaches are applied to the initial plant material for dividing the plant material into plant cuttings. The '713 patent does not teach to analyze a raw product of a selected plant to determine structural or functional indices associated with the raw product. It is these indices after analysis that are compared to product processing feature range sets provided in plurality of records. The '713 patent teaches neither a raw product specific indices nor product processing feature range sets. The '713 patent not only fails to teach comparisons and matchings as claimed here, there is no selection of a product at all. The '713 patent simply teaches to

replant the cuttings. In the present invention, only if indices of a raw product determined in step (b) match product processing feature range sets provided in step(c), then that raw product is selected, otherwise the raw product is not selected. There is no such teaching in the '713 patent. No comment is made as to whether these rules lead to a uniform product. In fact, the '713 patent does not contain the word "uniform," the word "quality", or the word "product." Simply put, the '713 patent does not teach or disclose that the selected plant product, when processed under a given set of processing parameters, results in the uniform quality end product.

To the extent that the Examiner maintains that the language, "predetermined rules related to the structure of the plant material", in the '713 patent anticipates claim steps (d) and (e) and any other steps, it is the Examiner's burden to show how this language or any other teaching in the '713 patent anticipates each and every element of these steps. If not, the Examiner must withdraw the rejection based on this assertion.

D. Step (c) of claim 1 and '713 patent teachings

Applicant points out that the Office Action at page 6 mentions parts a and b and at page 7 mentions parts d and e, and mentions how these steps are allegedly anticipated by the '713 patent, but no where explicitly mentions part c. To the extent that the Examiner believes that the cited reference teaches the part c, Applicant respectfully submits that, as mentioned above, the '713 patent does not teach or disclose a system with product processing feature range set records. The '713 patent does not teach or disclose that each of the records associates a given set of product processing data with a corresponding product processing feature range set. Nor does the '713 patent teach or disclose that a uniform quality end product results from application of the given set of product processing data to raw product falling within the associated product processing feature range set. The Examiner has not pointed to such teachings in the '713 patent.

E. The "713 patent teachings does not anticipate claim 1

Thus, the '713 patent does not disclose each and every element of the claim 1 either explicitly or implicitly and does not enable one skilled in the art to carry out the claimed invention as required under the law of anticipation.

F. Claims 2-3 and 7-9 of the instant application, and '713 patent teachings

Claims 2-3 and 7-9 also stood rejected based on the 5370713 patent for the reasons stated on page 7 of the Office Action. Applicant respectfully disagrees with this rejection.

Claims 2-3 and 7-9 depend from claim 1. The '713 patent does not teach or disclose all of the elements of claim 1 and therefore does not anticipate claim 1 as discussed above. Because the '713 patent does anticipate claim 1, it necessarily fails to anticipate the dependent claims incorporating all of the elements of claim 1.

G. Request for further evidence

Applicant respectfully submits that the anticipation cannot be based upon speculation or probability but must be based on certainty. Because the cited reference does not unequivocally teach, i.e., does not teach every element and does not provide enabling disclosure to one skilled in the art to carry out the claimed invention, the reference does not anticipate the rejected claims. If the Examiner is aware of references which would tend to disclose the claimed invention, the Examiner is asked to cite them. If, within the Examiner's personal knowledge, the "predetermined rules" disclosed in the '713 patent are the same essence as the features recited in claim 1, the Examiner is requested to make them part of the record by way of affidavit as required by 37 C.F.R. §1.104(d)(2). In the absence of such additional disclosures, the rejection under §102 is improper and must be withdrawn.

IV. Rejections Under 35 U.S.C. § 103

A. Background

The examiner rejected claims 4-6 under 35 USC § 103 as obvious in view of Chappelle, 1984, Appl. Opt. 23:134-138. Applicant respectfully submits that the form paragraph rejecting

claims 4-6 is not clear as to whether the cited Chappelle reference has been used as a primary reference or as a secondary reference. Applicant respectfully believes that the Examiner purports to reject claims 4-6 as obvious over 5370713 patent (as the primary reference) in view of Chappelle (as the secondary reference) and traverses this rejection accordingly.

To make out a *prima facie* case of obviousness, the examiner must show structural similarity between claimed and prior art subject matter, proved by combining references or otherwise, and show that the prior art gives reason or motivation to make the claimed articles. *In re Dillon* , 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1990). The prior art for an obviousness rejection comprises references that are within the field of the inventor's endeavor and "analogous art", defined such that a person of ordinary skill would reasonably have consulted such analogous art references and applied their teachings in seeking a solution to the problem that the inventor was attempting to solve. *In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). The purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve. *In re Clay*, 23 USPQ2d 1058, 1060-1061 (Fed. Cir. 1992).

When claims are rejected under 35 U.S.C. § 103 as obvious in view of a combination of prior art references, the law requires consideration of whether the prior art would have suggested to or motivated those of ordinary skill in the art that they should carry out the claimed process. *In re Vaeck*, 947 F.2d 488, 20 USPQ2D 1438. More specifically, the determination of obviousness must involve more than indiscriminate combination of the prior art; a suggestion or motivation to combine must exist. *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.*, 103 F.3d 1538, 41 USPQ2d 1238 (Fed. Cir. 1997), *cert. denied*, 117 S.Ct. 2516 (1997). There is also requirement that prior art references in the combination be at least analogous art. *Heidelberger Druckmaschinen AG v. Hantscho Commercial Products Inc.*, 30 USPQ2d 1377, 1379-1380 (Fed. Cir. 1994).

B. Claims 4-6 are not obvious over the '713 patent in view of Chappell

The '713 patent does not teach or suggest all of the features of the claim 1. For example, the '713 patent does not disclose or suggest a system with product processing feature range set

records. The '713 patent does not disclose or suggest that each of the records associates a given set of product processing data with a corresponding product processing feature range set. Nor does the '713 patent disclose or suggest that a uniform quality end product results from application of the given set of product processing data to raw product falling within the associated product processing feature range set. There is no suggestion of processing the plant product into the uniform quality end product by comparing the at least one structural or functional index to product processing feature range sets in the records. There is not even a remote suggestion that the '713 patent COMPARES a structural or functional index to product processing feature range sets. The '713 patent does not disclose or suggest that the selected plant product, when processed under a given set of processing parameters, results in the uniform quality end product. These deficiencies are not cured by Chappelle which is about viewing leaves, from a distance, spectroscopically. The '713 patent which concerns an apparatus for cutting and replanting plant materials does not solve the problem solved by the claimed invention and hence is nonanalogous art. Furthermore, there is no motivation given to one skilled in the art to combine the '713 patent with Chappelle. Even when combined, one would not arrive at the claimed invention because Chappelle does not remedy the deficiencies of the '713 patent. If the Examiner is aware of references which would tend to remedy these shortcomings of the '713 patent, the Examiner is asked to cite them. If such facts are within the Examiner's personal knowledge, the Examiner is requested to make them part of the record by way of evidence as required by 37 C.F.R. §1.104(d)(2). In the absence of such additional evidence, the rejection under §103 is improper.
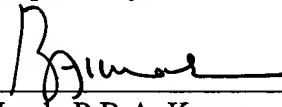
V. Conclusion

Accordingly, in view of the foregoing remarks, reconsideration and withdrawal of the rejections under 35 U.S.C. §102 and §103 are respectfully requested.

Applicant believes this response to be a full and complete response to the Office Action. Thus, favorable reconsideration in view of this response and allowance of all of the pending claims are earnestly solicited.

Respectfully submitted,

Date: November 29, 2001

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APPENDIX: Copy of Pending Claims in Serial No. 09/521,769

1. A method for non-random selection of a raw product of a selected plant for processing into a uniform quality end product comprising the steps of:

    (a) obtaining a sample of the raw product of the selected plant;

    (b) analyzing the sample to determine at least one structural or functional index associated with the raw product;

    (c) providing a plurality of product processing feature range set records, wherein each of the records associates a given set of product processing data with a corresponding product processing feature range set, and wherein, for each such record, a uniform quality end product results from application of the given set of product processing data to raw product falling within the associated product processing feature range set;

    (d) determining the suitability of the sample obtained in step (a) for processing into the uniform quality end product by comparing the at least one structural or functional index to product processing feature range sets in the records; and

    (e) if the at least one structural or functional index matches one of the product processing feature range sets in the records then, selecting the raw product so that when processed under a given set of processing parameters, the selected raw product results in the uniform quality end product.

2. The method of claim 1, wherein the selected plant product is a group fruits, a group of tubers, a group of seeds, a group of leaves, a group of vegetative buds, a group of inflorescences, a group of nuts or a group of seeds of the crop plant.

3. The method of claim 1, wherein analyzing the sample is by means of an imaging system.

4.	The method of claim 3, wherein the imaging system is a light microscope, fluorescent microscope, spectral microscope, hyper-spectral microscope, electron microscope, confocal microscope optical coherence tomograph telescope or spectral telescope, MRI or ultrasound.

5.	The method of claim 1, wherein the at least one structural or functional index is a plant phenomics index.

6.	The method of claim 5, wherein the plant phenomics is macrophenomics or microphenomics.

7.	The method of claim 1, wherein the at least one structural or functional index includes a qualitative feature.

8.	The method of claim 1, wherein the at least one structural or functional index includes a quantitative feature.

9.	The method of claim 1, wherein said processing data include bioprocessing data.